SPECIAL SPECIFICATION

SECTION 05800S

EXPANSION JOINT FIRE BARRIERS

PART 1 - GENERAL

1.01 WORK INCLUDED

A. The work shall consist of furnishing and installing fire barrier assemblies in accordance with the details shown on the plans and the requirements of the specifications. The fire barrier assemblies are proprietary designs utilizing pre-engineered components and materials tested to meet a required fire endurance rating expressed in hours.

B. Related Work
- Cast-in-place concrete
- Miscellaneous and ornamental metals
- Flashing and sheet metal
- Sealants and caulking

1.02 SUBMITTALS

A. Template Drawings - Submit typical fire barrier cross-section(s) indicating pertinent dimensioning, general construction, and relationship to expansion control system (if applicable).

B. Test Reports - Submit nationally recognized independent third party test report or engineering evaluation certifying product to meet the required test standard(s) and fire endurance rating.

1.03 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Deliver products in manufacturer's original carton or labeled containers and store under cover in a dry location until installed. Store off the ground, protect from weather and construction activities.

1.04 ACCEPTABLE MANUFACTURER

A. All fire barriers shall be as designed and manufactured by Watson Bowman Acme, 95 Pineview Drive, Amherst, New York 14228.

B. Alternate manufacturers and their products will be considered, provided they meet the required fire rating, and are produced of materials that are equal to or superior to those used in the specified fire barrier assembly.

C. Any proposed alternate systems must be submitted and receive approval 21 days prior to the bid. All post bid submittals will not be considered. This submission shall be in accordance with MATERIALS AND SUBSTITUTIONS.

Any manufacturer wishing to submit for prior approval must provide the following:

1. A working 6" sample of the proposed system with a letter describing how system is considered superior to the specified fire barrier assembly.

2. A project proposal drawing that illustrates the recommended alternate system installed in the construction that is specific to the project. Typical catalog cut sections will not be considered.

3. Nationally recognized third party test report certifying that proposed system meets all required test standards and fire endurance ratings.

Incomplete test reports or letters submitted from the manufacturer substituting as third party certification will not be permitted.

4. Verifiable list of prior installations showing prior and successful experience with the proposed systems.

5. Any substitution products not adhering to all specification requirements within, will not be considered.

PART 2 - PRODUCT

2.01 GENERAL

A. Provide encapsulated fire barrier assembly that has been designed to provide the required fire endurance rating, minimize passage of smoke and accommodate dynamic movement without stress or degradation to its components. Documentation by a recognized third party witnessing agency shall certify that the system has been tested and meets the requirements of ASTM E-119, NFPA 251, UBC 7-1 and CAN/ULC - S101 for fire endurance. For assurance of movement capability, provide system that meets the requirements of section 2.03 Table I accompanied by third party documentation.

1. Furnish Wabo®FlameGuard Fire Barrier System for rated openings of 4 inches or wider as manufactured by Watson Bowman Acme and as indicated on drawings.

2. Furnish Wabo®FireFlex Fire Barrier System for 2" rated openings as supplied by Watson Bowman Acme and as indicated on drawings.

2.02 COMPONENTS AND MATERIALS

A. Flexible Fire Blanket - Provide lateral shear capable high purity ceramic fiber blanket encapsulated to minimize dusting and passage of smoke. The blanket shall meet the following requirements:

Physical Properties	Values
Density	8-13 PCF*
Melting Point	3200°F
Service Limit	2300°F
Flame Spread (ASTM E-84) 0	
Smoke Developed (ASTM E-84)	0
Color	White

* Dependent on thickness of blanket

B. Encapsulation Envelope (Smoke Barrier) - Provide fiberglass reinforced aluminum foil meeting the following requirements:

Physical Properties	Test Method	Values
Thickness ----	8 mils	
Tensile Strength	ASTM C-1136	45 lbs/in width (MD)
45 lbs/in width (XD)		
Reinforcing	----	4/inch (MD)
(Bi-directional fiberglass)		4/inch (XD)
Puncture Resistance	ASTM C-1136	130 Beach units
Bursting Strength	ASTM D-774	90 psi
Flame Spread	ASTM E-84	5
Smoke Developed	ASTM E-84	10

C. Attachment Retainer -

1. Wabo®FlameGuard: Provide preformed 18 ga. galvanized sheet metal profile with manufacturer's hardware and fasteners to provide proper attachment of fire barrier assembly to adjoining construction.

2. Wabo®FireFlex: Provide preformed 24ga.(min.) galvanized sheet metal profile with manufacturer's hardware and fasteners to provide proper attachment of fire barrier assembly to adjoining construction.

D. Accessories - Provide necessary and related parts including splice sealants required for complete installation.

2.03 MOVEMENT CYCLING

A. Wabo®FlameGuard: Manufacturers Fire Barrier assembly shall demonstrate ability to cycle in accordance with Table I. All cycling and observations shall be witnessed and documented by an independent third party testing laboratory.

TABLE I

Movement	Nominal Cycling Rate (cpm)	Complete Number of Cycles
Thermal	1	500
Seismic	30	100
For above Combined Movements followed by:	30 10	100 400

1. Wabo®FireFlex: Manufacturers Fire Barrier assembly shall demonstrate ability to cycle in accordance with Table II. All cycling and observations shall be witnessed and documented by an independent third party testing laboratory.

TABLE II

Movement	Nominal Cycling Rate (cpm)	Complete Number of Cycles
Thermal / Seismic (combined)	**45**	**500**
Followed by:		
Lateral Shear Movement +/- 50 percent of nominal opening	**45**	**100**

2.04 FABRICATION

A. Fire barrier blankets and attachment retainers shall be shipped in standard 25 foot rolls. Galvanized metal retainers shall be supplied in standard 10 foot lengths.

B. Splice sealants and hardware required for a complete installation will be shipped as loose components in manufacturer's standard shipping carton.

C. Fire Barrier Assemblies shall be cut in the field for exact length and changes in direction.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Protect all fire barrier components from damage during storage, installation and post installation activities including placement of expansion control system.

B. Wabo®FlameGuard and Wabo®FireFlex fire barrier assembly shall be installed in strict accordance with manufacturer's installation procedures along with the advice of their product engineers.

C. Fire barrier assembly shall be installed in the correct width of opening as called for in the contract plans. Variations in width shall be brought to the attention of the architect and product manufacturer prior to the installation of any material.

3.02 CLEAN AND INSPECT

A. Upon completing installation of the Wabo®FlameGuard and Wabo®FireFlex Fire Barrier Assembly, inspect all splices to ensure proper sealants have been applied in sufficient amounts. Clean and remove any debris that is observed at the base of the fire barrier void.

END OF SECTION